

**Commonwealth of Kentucky
Division for Air Quality**

PERMIT APPLICATION SUMMARY FORM

Completed by: Siew Nong Lim

GENERAL INFORMATION:

Name:	Meridian Aluminum Products, Inc.
Address:	161 Industrial Lane, Island, Kentucky 42350
Date application received:	July 26, 2001
SIC/Source description:	3341
AFS Plant ID:	21-149-00036
Application log number:	54016
Permit number:	F-01-031

APPLICATION TYPE/PERMIT ACTIVITY:

<input checked="" type="checkbox"/> Initial issuance	<input type="checkbox"/> General permit
<input type="checkbox"/> Permit modification	<input checked="" type="checkbox"/> Conditional major
__Administrative	<input type="checkbox"/> Title V
__Minor	<input checked="" type="checkbox"/> Synthetic minor
__Significant	<input type="checkbox"/> Operating
<input type="checkbox"/> Permit renewal	<input checked="" type="checkbox"/> Construction/operating

COMPLIANCE SUMMARY:

<input type="checkbox"/> Source is out of compliance	<input type="checkbox"/> Compliance schedule included
<input type="checkbox"/> Compliance certification signed	

APPLICABLE REQUIREMENTS LIST:

<input checked="" type="checkbox"/> NSR	<input type="checkbox"/> NSPS	<input type="checkbox"/> SIP
<input type="checkbox"/> PSD	<input checked="" type="checkbox"/> NESHAPS	<input type="checkbox"/> Other
<input type="checkbox"/> Netted out of PSD/NSR	<input type="checkbox"/> Not major modification per 401 KAR 51:017, 1(23)(b) or 51:052,1(14)(b)	

MISCELLANEOUS:

- ☐ Acid rain source
- ☐ Source subject to 112(r)
- ☒ Source applied for federally enforceable emissions cap
- ☐ Source provided terms for alternative operating scenarios
- ☒ Source subject to a MACT standard
- ☐ Source requested case-by-case 112(g) or (j) determination
- ☐ Application proposes new control technology
- ☒ Certified by responsible official
- ☒ Diagrams or drawings included
- ☐ Confidential business information (CBI) submitted in application
- ☐ Pollution Prevention Measures
- ☐ Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

Pollutant	Potential to Emit (TPY)	Allowable (TPY)
PM	65.78	79.41
PM10	46.28	-
CO	12.40	12.40
NO _x	21.24	21.24
SO ₂	60.32	60.32
VOC	11.59	11.59
HCl	9.50	9.50
D/F (TEQ)	1.36E-08	See Secondary Aluminum MACT
Ammonia	0.80	See 401 KAR 53:010

SOURCE PROCESS DESCRIPTION:

Meridian Aluminum Products, Inc. (hereby referred to as Meridian) submitted an application to modify the existing secondary aluminum smelting plant in Island, Kentucky. The existing 10.0 MMBTU/hour rotary furnace (emission point 001(EP01-A)) and associated caster (001(EP01-B)) will be kept while the existing small rotary furnace will be removed. Meridian proposes to add 3 rotary furnaces (002(EP02-A) - 004(EP04-A)), each rated at 7.9 MMBTU/hour, and 3 associated casting operations (002(EP02-B) - 004(EP04-B)). Aluminum dross (005(EP05)) is received and stored in covered bins in an enclosed storage building while aluminum scrap (006(EP06)) is kept in a storage area outside. Emissions from dross and solid scrap load-in, storage, and handling are considered fugitive. Dross and aluminum scrap are charged and melted in the rotary furnaces. Fluxing is performed with chloride-based flux salts. The molten aluminum is cast into ingots (sows) and poured into crucibles. Emissions from the furnaces and associated casters are captured by a 98% efficient hood and controlled by exhaust stream lime injection systems (85% control efficiency) and 4 baghouses (99.9% control efficiency). The furnaces use oxygen-enriched natural gas fuel and no.2 fuel oil as a backup fuel. Slag or saltcake (007(-)) generated within the furnaces is cooled, broken into large chunks, and temporarily stored within the production building before being sent to an approved landfill. Emissions from saltcake cooling, processing, and loadout are considered fugitive. Another source of fugitive emissions is the fugitive dusts generated by vehicular traffic on the unpaved haul road (008(-)).

EMISSION AND OPERATING CAPS DESCRIPTION:

Emission caps are as follow:

Emission Point	Pollutant	Allowable	Applicable Regulation
<ul style="list-style-type: none"> 001(EP01-A, B) Rotary Furnace #1 002(EP02-A, B) Rotary Furnace #2 003(EP03-A, B) Rotary Furnace #3 004(EP04-A, B) Rotary Furnace #4 001(EP01-A, B) - 004(EP04-A, B) Secondary Aluminum Processing Unit (SAPU) 	<ul style="list-style-type: none"> HCl (source-wide) Particulate / Opacity D/F (TEQ) 	<p>HCl:</p> <ul style="list-style-type: none"> Source-wide HCl emission shall not exceed 9.5 tons/12-month rolling average. Self-imposed to preclude 401 KAR 52:020 – Title V permits. No owner or operator shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants. <p>Particulate/Opacity:</p> <ul style="list-style-type: none"> For each emission point, the particulate emission allowable is 2.84 pounds/hour, 12.46 tons/12-month rolling average. For each emission point, the opacity shall not equal or exceed 20%. <p>D/F:</p> <ul style="list-style-type: none"> D/F emissions shall not exceed the limits specified in the applicable regulations for each group 1 furnace and each SAPU. 	<p>HCl:</p> <ul style="list-style-type: none"> 401 KAR 52:030 401 KAR 63:020 <p>Particulate/Opacity:</p> <ul style="list-style-type: none"> Self-imposed to preclude 401 KAR 51:017 401 KAR 59:010 <p>Fugitive particulate:</p> <ul style="list-style-type: none"> 401 KAR 63:010 <p>D/F:</p> <ul style="list-style-type: none"> 40 CFR 63 Subpart RRR §63.1505 (i)(3) 40 CFR 63 Subpart RRR §63.1505 (k)(3)
<ul style="list-style-type: none"> 005(EP05) Dross Aluminum 007(-) Saltcake/Slag 	NH ₃	<ul style="list-style-type: none"> At any time when 1 volume unit of ambient air is mixed with 7 volume units of odorless air, the mixture must have no detectable odor. No owner or operator shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants. 	<ul style="list-style-type: none"> 401 KAR 53:010 401 KAR 63:020
<ul style="list-style-type: none"> 005(EP05) Dross Aluminum 006(EP06) Scrap Aluminum 007(-) Saltcake/Slag 008(-) Unpaved Haul Road 	Particulate	<p>The particulate emission allowable is:</p> <ul style="list-style-type: none"> 1.02 pounds/hour, 4.48 tons/12-month rolling average. 0.50 pounds/hour, 2.18 tons/12-month rolling average. 1.08 pounds/hour, 4.73 tons/12-month rolling average. 4.15 pounds/hour, 18.18 tons/12-month rolling average. 	<p>Self-imposed to preclude 401 KAR 51:017</p>

Operating caps are as follow:

Emission Point	Pollutant	Operating requirement	Applicable Regulation
<ul style="list-style-type: none"> 001(EP01-A, B) Rotary Furnace #1 002(EP02-A, B) Rotary Furnace #2 003(EP03-A, B) Rotary Furnace #3 004(EP04-A, B) Rotary Furnace #4 001(EP01-A, B) - 004(EP04-A, B) Secondary Aluminum Processing Unit (SAPU) 	<ul style="list-style-type: none"> HCl (source-wide) Particulate D/F (TEQ) 	<p>HCl:</p> <ul style="list-style-type: none"> The permittee shall not charge flux salt in quantities that will cause HCl emissions to exceed 9.5 tons/12-month rolling average. The maximum flux rate and lime use rate shall be determined during compliance demonstration tests. Self-imposed to preclude 401 KAR 52:020 – Title V permits. Persons responsible for a source from which hazardous matter or toxic substances may be emitted shall provide the utmost care and consideration, in the handling of these materials, to the potentially harmful effects of the emissions resulting from such activities. <p>Fugitive particulate:</p> <ul style="list-style-type: none"> The permittee shall comply with applicable standards in Section 3 of the application regulation. <p>D/F:</p> <ul style="list-style-type: none"> The permittee shall comply with applicable operating requirements specified in the applicable regulation. 	<p>HCl:</p> <ul style="list-style-type: none"> 401 KAR 52:030 401 KAR 63:020 <p>Fugitive particulate:</p> <ul style="list-style-type: none"> 401 KAR 63:010 <p>D/F:</p> <ul style="list-style-type: none"> 40 CFR 63 Subpart RRR §63.1506
<ul style="list-style-type: none"> 005(EP05) Dross Aluminum 007(-) Saltcake/Slag 	NH ₃	Persons responsible for a source from which hazardous matter or toxic substances may be emitted shall provide the utmost care and consideration, in the handling of these materials, to the potentially harmful effects of the emissions resulting from such activities.	401 KAR 63:020
<ul style="list-style-type: none"> 005(EP05) Dross Aluminum 006(EP06) Scrap Aluminum 007(-) Saltcake/Slag 008(-) Unpaved Haul Road 	Particulate	The permittee shall comply with applicable standards in Section 3 of the application regulation.	401 KAR 63:010

OPERATIONAL FLEXIBILITY:

None.